



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
11.08.2021 Bulletin 2021/32

(51) Int Cl.:
G01J 3/02 (2006.01) **G01J 3/50 (2006.01)**
G01J 3/52 (2006.01)

(43) Date of publication A2:
30.06.2021 Bulletin 2021/26

(21) Application number: **20216513.0**

(22) Date of filing: **22.12.2020**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(72) Inventors:
• **Thorsten Heiko Schelske, Yannik 65760 ESCHBORN (DE)**
• **Maria Priore, Gerardo 60311 FRANKFURT AM MAIN (DE)**
• **MATHIEZ, Jean-Louis Marie Marcel 91470 LIMOURS (FR)**

(30) Priority: **23.12.2019 FR 1915511**

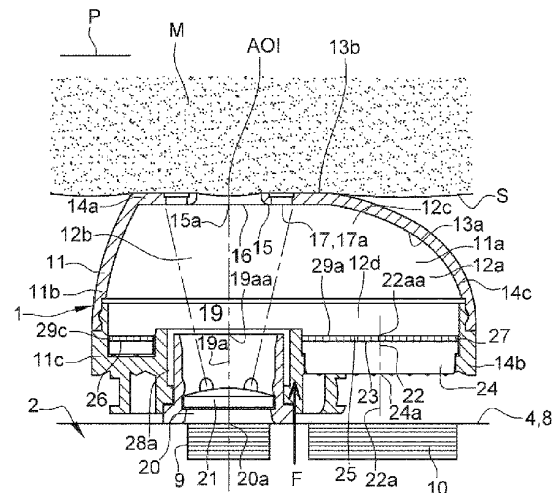
(74) Representative: **Ernest Gutmann - Yves Plasseraud S.A.S.**
c/o Plasseraud IP
66, rue de la Chaussée d'Antin
75440 Paris Cedex 09 (FR)

(71) Applicant: **Cosnova GmbH**
65843 Sulzbach (DE)

(54) **MEASURE OF THE COLOR OF AN AREA OF INTEREST TARGET IN RELATIONSHIP WITH COLOR MEASUREMENT TARGETS**

(57) Mobile phone accessory (1), to be associated with a smartphone, comprising a support and handling casing with an internal space (11a), an inner face (13a), an orifice (16) to be associated with an AOI target, located within a light incident spot (15), and a rear wall portion (14b), a lighting means (22) with an axis (22a), to produce the light illuminating the spot (15), a camera field of view (19) with an axis (19a), to make a reflection photo of the spot (15) and its content, a scattering plate (27), having a scattering opening (30) with a center (19aa) and a center (22aa), colored targets being an appropriate number N of color measurement targets (17), sufficient to permit an accurate measure of the color of the AIO target, selected to have defined colors within a narrow gamut of colors representing the whole range of AOI target colors, and forming together a color measurement unity (17a), through the scattering opening (30) is seen the spot (15), the N color measurement targets (17) being located within the internal space (11a) and fixed on the inner face (13a) of the front wall portion (14a), sidely with the measurement orifice (16).

[Fig. 5A]





EUROPEAN SEARCH REPORT

Application Number
EP 20 21 6513

5

DOCUMENTS CONSIDERED TO BE RELEVANT				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
X	WO 2012/058641 A2 (UNIV CALIFORNIA [US]; FLETCHER DANIEL [US] ET AL.) 3 May 2012 (2012-05-03)	1-9,21,26	INV. G01J3/02 G01J3/50 G01J3/52	
Y	* paragraphs [0059], [0060]; figures 1A,	10-14		
A	4, 9 *	15-20		

X	WO 2004/081653 A1 (SCALAR CORP [JP]; YAMAMOTO MASAO [JP]) 23 September 2004 (2004-09-23)	1-9,21-26		
Y	* paragraphs [0147], [0153] - [0156];	10-14		
A	figures 3, 11, 12 *	15-20		

A	US 2014/285806 A1 (HAAS ALFRED M [US]) 25 September 2014 (2014-09-25)	4-9		
	* abstract; figures 1A, 1B *			

A	DE 10 2004 033585 A1 (AXANA MUELLER SUSI [DE]; MUELLER CHRISTIAN JOERG [DE]) 2 February 2006 (2006-02-02)	4-9		
	* abstract; figure 1 *			

A,D	US 2017/085761 A1 (SHIN YO SHIK [KR]) 23 March 2017 (2017-03-23)	15-20	TECHNICAL FIELDS SEARCHED (IPC)	
	* abstract; figures 1,2 *		G01J H04N G06T G03B	

A,D	WO 2007/111353 A1 (OJI PAPER CO [JP]; KOJIMA JUNYA [JP] ET AL.) 4 October 2007 (2007-10-04)	15-20		
	* abstract; figures 1,2 *			

Y	US 5 568 266 A (CIZA JEAN-CHARLES [FR] ET AL) 22 October 1996 (1996-10-22)	10-14		
	* abstract; figure 5 *			

Y	US 2009/196496 A1 (KALLA KAREN [US] ET AL) 6 August 2009 (2009-08-06)	10-14		
	* paragraph [0054] - paragraph [0058] *			
	----- -/--			

The present search report has been drawn up for all claims				
Place of search Munich		Date of completion of the search 5 July 2021	Examiner Schmidt, Charlotte	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document				

EPO FORM 1503 03.02 (P04C01)

50

55



EUROPEAN SEARCH REPORT

Application Number
EP 20 21 6513

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2017/091941 A1 (ATKINSON DON [US]) 30 March 2017 (2017-03-30) * paragraph [0042]; figures 4,5 * -----	10-14	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 July 2021	Examiner Schmidt, Charlotte
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.02 (P04C01)



5

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

10

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

15

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

20

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

25

see sheet B

30

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

35

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

40

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

45

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

50

The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

55

**LACK OF UNITY OF INVENTION
SHEET B**Application Number
EP 20 21 6513

5

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

10

1. claims: 1-9, 15-26

A mobile phone accessory

15

1.1. claims: 1-9, 21-26

A mobile phone accessory with details of the position and dimensions of colour reference targets.

20

1.2. claims: 15-20

A mobile phone accessory with details of a scattering plate.

25

2. claims: 10-14

A mobile phone accessory with details of the manufacturing method used to manufacture colour references.

30

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

35

40

45

50

55

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 20 21 6513

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-07-2021

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2012058641 A2	03-05-2012	CN 103181154 A	26-06-2013
		EP 2633678 A2	04-09-2013
		US 2013300919 A1	14-11-2013
		US 2016248951 A1	25-08-2016
		US 2017126943 A1	04-05-2017
		US 2020336630 A1	22-10-2020
		WO 2012058641 A2	03-05-2012
WO 2004081653 A1	23-09-2004	JP 4175502 B2	05-11-2008
		JP 2004279733 A	07-10-2004
		WO 2004081653 A1	23-09-2004
US 2014285806 A1	25-09-2014	NONE	
DE 102004033585 A1	02-02-2006	CA 2572657 A1	12-01-2006
		DE 102004033585 A1	02-02-2006
		EP 1766352 A1	28-03-2007
		US 2008044082 A1	21-02-2008
		WO 2006002978 A1	12-01-2006
US 2017085761 A1	23-03-2017	CN 205563038 U	07-09-2016
		KR 101707861 B1	17-02-2017
		US 2017085761 A1	23-03-2017
WO 2007111353 A1	04-10-2007	JP 2007264343 A	11-10-2007
		TW 200745619 A	16-12-2007
		WO 2007111353 A1	04-10-2007
US 5568266 A	22-10-1996	NONE	
US 2009196496 A1	06-08-2009	AU 2008278683 A1	29-01-2009
		CA 2692647 A1	29-01-2009
		CN 101754701 A	23-06-2010
		EP 2170120 A2	07-04-2010
		JP 5094972 B2	12-12-2012
		JP 2010533537 A	28-10-2010
		KR 20100029839 A	17-03-2010
		US 2009196496 A1	06-08-2009
		US 2011064307 A1	17-03-2011
		WO 2009013687 A2	29-01-2009
US 2017091941 A1	30-03-2017	EP 3198525 A1	02-08-2017
		JP 2017535215 A	24-11-2017
		US 2017091941 A1	30-03-2017
		WO 2016049259 A1	31-03-2016

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82